



SWI
VALVE CO. LTD

COMPANY MANUAL

Quality Management System



Quality Management System Manual

For ISO 9001 : 2000 and API SPEC. Q1 8 TH

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Total Page : 40

■ CONTROLLED

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Quality management system manual

Rev. Date.	Apr. 21. 2008
Rev. No.	24
Doc. No.	SW-QMS-01

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0.0 Foreword

0.1 Company outline

- Foundation date : May 18, 1987
- Product : Valves
- Address

HEAD OFFICE & PLANT : 1023-2, Kwanyang-Dong, Anyang City, Kyungki-Do, Korea

2ND PLANT : #801-2, Goryeom-Ri, Cheongbuk-Myeon, Pyeongtaek City, Kyungki-Do, Korea

0.2 Scope

0.2.1 This manual covers design, production and service of valves of SWI.

0.2.1 SWI established quality management system according to requirements of ISO 9001:2000 and API SPEC. Q1, 7th, June 15, 2003.

0.3 Approval of quality management system manual

Prepared by : Quality Assurance


Ko, Man-Jong

Reviewed by : Quality Assurance manager and
Director

Cho, Yong-Pyo


Approved by : President

Choi, yoon-Sik

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	0.4 Revision record of manual	Doc. No.	SW-QMS-01

0.4 Revision record of manual

Rev No.	Rev. Date	Description	Prepared by	Approved by
0	1988/04/07	Initial Issue	C.K.WOO	Y.S.CHOI
1	1989/06/16	Reviewed	C.K.WOO	Y.S.CHOI
2	1989/10/24	Chapter 7.12 Addition	C.K.WOO	Y.S.CHOI
3	1992/01/03	Organization Change	J.B.LEE	Y.S.CHOI
4	1992/10/01	Organization Change	R.K.CHOI	Y.S.CHOI
5	1994/04/06	ISO 9001 Manual	Y.P.CHO	Y.S.CHOI
6	1994/11/12	ISO 9001 Review	Y.P.CHO	Y.S.CHOI
7	1994/12/17	Procedure Change	Y.P.CHO	Y.S.CHOI
8	1994/12/27	ISO Examine Comment	Y.P.CHO	Y.S.CHOI
9	1995/01/05	ISO Examine Comment	Y.P.CHO	Y.S.CHOI
10	1995/04/29	ISO Manual Review	Y.P.CHO	Y.S.CHOI
11	1995/07/31	ISO Manual Review	Y.P.CHO	Y.S.CHOI
12	1996/11/20	Organization Change	Y.P.CHO	Y.S.CHOI
13	1997/04/14	API 6D Q1 REVIEW COMMENT	Y.P.CHO	Y.S.CHOI
14	1997/05/06	ISO REVIEW COMMENT	Y.P.CHO	Y.S.CHOI
15	1999/08/27	API SPEC. 6D,Q1 Review-1999	Y.P.CHO	Y.S.CHOI
16	2000/03/22	API COMMENT	Y.P.CHO	Y.S.CHOI
17	2000/09/20	API COMMENT	Y.P.CHO	Y.S.CHOI
18	2002/11/29	ISO 9001 2000 Revision	Y.P.CHO	Y.S.CHOI
19	2003/03/05	ISO 9001 2000 Comments	T.M.LEE	Y.S.CHOI
20	2004/03/05	API SPEC. 6D,Q1 7 th Review-2003	T.M.LEE	Y.S.CHOI
21	2004/05/05	PRESSURE EQUIPMENT DIRECTIVE 97/23/EC	Y.P.CHO	Y.S.CHOI
22	2007/10/05	2 ND Plant Foundation	Y.P.CHO	Y.S.CHOI
23	2008/03/13	API COMMENT	Y.P.CHO	Y.S.CHOI
24	2008/04/21	API COMMENT	Y.P.CHO	Y.S.CHOI

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1.0 Introduction

1.1 General requirements

SWI Shall collect, put in writing, execute and maintain Quality Management System in accordance with this requirement form. It should include those below articles and approach the way that showed Figure 1 and improve continually.

- (1) Understand process and apply to all organizations
- (2) Decide process order and mutuality
- (3) Method and criterion for process efficiency judging
- (4) Possibility of information and resources for management & monitoring of process
- (5) Process monitoring, measuring and analyzing
- (6) Execution of necessary act to achieve planned process improvement
- (7) Process executing by subcontractor

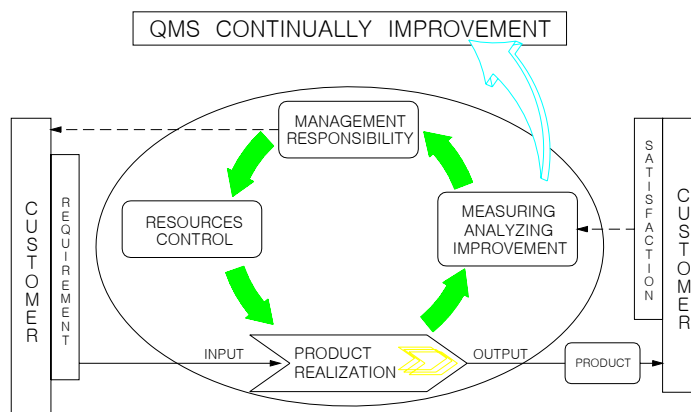



Figure 1 . Process approach method

Above Figure1 is showing the model of Quality Manual process constantly improving And approaching customer satisfaction through Management Responsibility, Resources Control, Product Realization , Measuring, Analyzing and Improvement process.

1.2 Product Actualization Project

SWI's Product Actualization Project applying to existing product (standard product/ order Product) consist with Quality Management System and include below articles.

- 1) Quality target and requirement for product
- 2) Necessity of process, document and product characteristic collection
- 3) Verification , validity, confirmation , monitoring, inspection, examination instrument and Passing decision criteria
- 4) Quality record of final product and Actualization process

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1.3 Terms and definitions

The meaning of terms used in this Quality Manual is consistent with the definitions of ISO 9001:2000 and API Specification Q1 and other referenced Code/Standards.

Acceptance Criteria

Specified limits of acceptability applied to process or product characteristics.

Calibration

Comparison and adjustment to a standard of known accuracy

Control Feature

Organization's documented method to perform an activity under controlled conditions to achieve conformity to specified requirements.

Delivery

Point in time and physical location at which the agreed transfer of ownership takes place.

Design acceptance criteria

Defined limits placed on characteristics of materials. Products, or services established by the organization, customer, and/or applicable specifications to achieve conformity to the product design.

Design validation

Process of proving a design by testing to demonstrate conformity of the product to design requirements.

Design verification

Process of examining the result of a given design or development activity to determine conformity With specified requirements.

Manufacturing acceptance criteria

Defined placed on characteristics of materials, products, and services established by the organization to achieve conformity to the manufacturing or service requirements.

Special process


Process where the conformity of the resulting product cannot be readily or economically verified by subsequent monitoring or measurement.

Tender

Offer made by an organization in response to an invitation to provide a product.

Document procedure

This means that the procedure is established, documented, implemented and maintained.

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	2.0 Quality Policy	Doc. No.	SW-QMS-01

2.0 Quality policy

LET'S DO OUR BEST FOR THE FUTURE

We are under the very situation entering into the U.S. and Japan market, which have been an impregnable fortress, with our own brand "SWI".

Now we are meeting with the severe competition in domestic and foreign market.

It is enable for us to make the entry into that market, providing with the high quality products which satisfy the various requirements of Clients with keeping the delivery schedule and the reasonable price.

At the present time, the market is advancing to the infinite competitive system and the competitive power of company depends on the technique and/or the advantage of quality.

I hereby make it a rule as follows for our business.

a) Improving the technique

To enlarge the worldwide market by developing the high value added products of technique advantage.

b) Fixing the quality first policy

To improve the customary practice which attaches great importance to the delivery prior to the quality of products.

c) Cultivating the capability of process control


To keep the delivery schedule by the cultivation of the capability of process control coping with the various kinds and small quantity orders of clients.

d) Improving of productivity

To make an continuous improvement so as to strengthen the international competitive power.

This policy is satisfied requirements of ISO 9001 : 2000 quality manage system and implementing this policy at all levels of the organization, we make it our target to make the world leading company producing the best quality products.

SWI Valve Co., Ltd. President

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	3.0 Document system	Doc. No.	SW-QMS-01

3.0 Document system

Requirements of ISO 9001 and API	Document Name	Document No.
0.0. Foreword		
1.0. Introduction		
2.0. Quality policy		
3.0. Document system		
4.0. Quality management system		
4.1 General requirements		
4.2 Documentation requirements	Document control procedure	SW-P-05-01
	Quality record control procedure	SW-P-16-01
5.0. Management responsibility		
5.1 Management commitment		
5.2 Customer focus	Contractor review procedure	SW-P-03-01
5.3 Quality policy		
5.4 Planning		
5.5 Responsibility, authority and communication	Education and Training Procedure	SW-P-18-01
5.6 Management review	Management review procedure	SW-P-01-01
6.0 Resource management		
6.1 Provision of resource		
6.2 Human resource	Education and Training Procedure	SW-P-18-01
6.3 Infrastructure		
6.4 Work environment		
7.0 Product realization		
7.1 Planning of product realization		
7.2 Customer-related process	Contractor review procedure	SW-P-03-01
	Corrective and prevention action procedure	SW-P-14-01
7.3 Design and development	Design control procedure	SW-P-04-01
7.4 Purchasing	Purchasing control procedure	SW-P-06-02
	Supplier control procedure	SW-P-06-01
	Receiving Inspection Procedure	SW-P-10-01
7.5 Product and service provision	Process control procedure	SW-P-09-01
	Facility control procedure	SW-P-09-03
	Identification and traceability Procedure	SW-P-08-01
	Handling, cleaning, storage, packaging, preserving and delivery procedure	SW-P-15-01



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3.0 Document system

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Requirements of ISO 9001 and API	Document Name	Document No.
7.6 Control of monitoring and measuring device	Measurement and instrument control procedure	SW-P-11-01
8.0. Measurement, analysis and improvement		
8.1. General		
8.2. Monitoring and measurement	Internal audit procedure	SW-P-17-01
	Inspection and test procedure	SW-P-10-03
8.3. Control of nonconforming product	Non-conforming control procedure	SW-P-13-01
	Field nonconformance procedure	SW-P-13-02
8.4. Analysis of data	Statistical technique instruction	SW-Q-03
8.5. Improvement	Corrective and preventive action procedure	SW-P-14-01
9.0. API MONOGRAM PROGRAM REQUIREMENTS	Marking procedure	SW-Q-01

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	4.0 Quality management system	Doc. No.	SW-QMS-01

4.0 Quality management system

4.1 General requirements

4.1.1 General

SWI Valve Co.,Ltd.(SWI) shall establish , document, implement and maintain quality management system and in order continually to improve its effectiveness in accordance with the requirements ISO 9001; 2000 Edition and API SPEC. Q1, 7th , June 15, 2003.

SWI shall be follows;

- a) Identify the process needed for the quality management system and their application throughout the SWI's organization,
- b) Determine the sequence and interaction of these processes,
- c) Determine criteria and methods needed to ensure that both operation and control of these process is effective,
- d) Ensure the availability of resources and information necessary to support the operation and monitoring of the processes,
- e) Monitor, measure and analysis these processes.
- f) Implement actions necessary to achieve planned results and continual improvement of these processes.
- g) Maintain responsibility for product conformance when processes are outsourced.

4.1.2 Control of outsourcing processes


Where an SWI chooses to out source any process that affects product conformity with requirements, SWI shall control outsourcing processes in accordance with “Sub-contractor procedure” of SWI.

4.2 Documentation requirements

4.2.1 General

The quality management system documentation shall include:

- a) documented statements of a quality policy and quality objectives
- b) a quality manual
- c) documented Procedures required by this International Standard
- d) documents needed by the organization to ensure the effective planning, operation and control of its processes, and
- e) records required by this International Standard

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4.2.1.1 Documentation system

The documents are composed of 3 level of manual, procedure and directive as below table

Manual	Level 1	Manual is top class documentation.
Procedure	Level 2	Procedure is documentation that it is described work of Quality Management System.
Directive	Level 3	Directive is composed of work directive and work standard that is described work detail method.

4.2.1.2 Documentation type


- It is general rule to use of electronic document for use and control of documentation
- Document of external origin is controlled with printing.

4.2.2 Quality manual

- SWI shall establish and maintain a quality manual that includes:
 - a) the scope of the quality management system, including details of and justification for any exclusion
 - b) the documented procedures established for the quality management system, or reference to them, and
 - c) a description of the interaction between the processes of the quality management system.
 - d) Identify the manner in which the organization address each specific requirement of this Technical Specification, including both the requirements of ISO 9001;2000 and API SPEC. Q1, 7th.
- Quality Manual is prepared, reviewed, and approved in accordance with Document Control Procedure.

4.2.3 Control of Documents

- Documents required by quality management system shall be controlled according to following.
 - a) to approve documents for adequacy prior to issue.
 - b) to review and update as necessary and re-approved documents,
 - c) to ensure that changes and the current revision status of documents are identified.
 - d) to ensure that relevant versions of applicable documents are available at points of use.
 - e) to ensure that documents remain legible and readily identifiable
 - f) to ensure that documents (ex. official note, drawing, purchaser order, and technical spec. etc.) of external origin are identified and their distribution controlled, and

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- g) to prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.
- h) Document shall be reviewed and revised at regular periods and non-regular intervals and revision document is re-approved according to Document Control Procedure.
- i) Review periods is following table.

Regular periods review	- Before internal audit perform for at least annual.
Non-regular periods review	- When work procedure and process change. - If internal audit and external audit required.


- j) Electronic document and printing is ensured for reading that relevant version of applicable documents are available at points of use
- k) A master list or equivalent control feature shall be used to identify the documents required by the quality management system and their current revision status.
- l) Changes to documents shall be reviewed and approved by the same functions that performed the original review and approval.

4.2.4 Control of records

- a) Records shall be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system and retained for a minimum of five years.
- b) Records shall remain legible, readily identifiable and retrievable.
- c) A documented procedure shall be established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.
- d) Quality record control procedure shall be identified to controlled record.
- e) The documented procedure shall identify the functions responsible for the collection and maintenance of records.
- f) Records required by applicable industry product standards shall be retained for not less than the time period specified by the industry standard or five years, whichever is longer. Records required to provide evidence of conformity to requirements and of the effective operation of quality management system shall be retained for a minimum of five years.

[Reference document]

- Document control procedure (SW-P-05-01).
- Quality record control procedure(SW-P-16-01).

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	5.0 Management responsibility	Doc. No.	SW-QMS-01

5.0 Management responsibility.

5.1 Management commitment

President shall perform evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by

- a) communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements,
- b) establishing the quality policy,
- c) ensuring that quality objectives are established,
- d) conducting management reviews, and
- e) ensuring the availability of resources

5.2 Customer focus

5.2.1 The department shall grasp the requirements related to the product according to contractor review procedure and reflect the quality object to customer requirement

- Quality requirement related to the property, cost, and offer condition of product.
- Safety requirements related to the custody, use and disuse of product.

5.2.2 Customer requirement shall be grasp the below the customer.

- The product user.
- The product sales man.
- Another department.


[Reference Document.]

- Contractor review procedure(SW-P-03-01).

5.3 Quality policy

5.3.1 President shall ensure that quality policy

- a) is appropriate to the purpose of SWI

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- b) includes a commitment to comply with requirements and continually improve the effective-ness of the quality management system,
- c) provides a framework for establishing and reviewing quality objectives;

5.3.2 Quality policy shall be communicated, understood and observed within the SWI' employer.

5.3.3 Quality policy is reviewed and approved for continuing suitability by president in the end of every year.

5.4 Planning

5.4.1 Quality objectives

The department manager shall be established quality objectives that confer with manager agent and quality objectives report the president. Quality objectives shall be established according to below.

- Product requirement
- Customer requirement.
- Law requirement.
- SWI's management objectives.


The quality objectives shall be measurable and consistent with the quality policy

5.4.2 Quality management system planning

- a) The department manager shall establish and report the president that the planning of the quality management system is carried out in order to meet the requirements given in 4.1, as well as the quality objectives.
- b)The integrity of the quality management system is maintained when charges to the quality management system are planned and implemented
- c) The department manager implemented quality management system planning and it is reported the result the president

5.5 Responsibility, authority and Communication

President shall ensure that responsibilities and authorities are defined and communicated within the SWI's organization.

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	5.0 Management responsibility	Doc. No.	SW-QMS-01

5.5.1 Responsibility and authority.

5.5.1.1 Organization

SWI's employer understand the responsibility and authority, It can delegate with the authority to a low grade employer but can't delegate with the responsibility.

5.5.1.2 President

President has the overall responsibility and authority for the quality management system of SWI and for participation and support of the quality management system with the following role;

- (a) to establish the quality policy, and approve the Quality management system Manual.
- (b) to have the responsibility for maintenance, management and arrangement of appropriate personnel and/or resources to manufacturing processes.
- (c) to be responsible for monitoring of quality management system to assure the continuous suitability and effectiveness of Quality management system.
- (d) to delegate the responsibility and authority to the Management Director.


5.5.1.3 Quality Assurance Department Manager

The QA Manager, who is responsible for overall quality assurance activities, has the organizational freedom and reports to President. He has the responsibility and authority for ;

- (a) establishment, maintenance and implementation of Quality Manual
- (b) control of quality system documents
- (c) inspection and test
- (d) control of nonconformance
- (e) corrective action
- (f) performance of internal audits
- (g) Education and training
- (h) assessment and maintenance of subcontractors

5.5.1.4 Production Department Manager

The Production Manager has the responsibility for overall production activities and he reports to Management Director. He has the responsibility and authority for ;

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- (a) initiation of production plan
- (b) identifying of manufacturing capacity and control of manufacturing
- (c) control between Purchasing Department and subcontractors
- (d) identification and management of products
- (e) manufacturing control
- (f) management and disposition of nonconforming products
- (g) traceability of products
- (h) control of subcontractor
- (i) control of parts

5.5.1.5 Design Department Manager

The Design Manager is responsible for overall design activities and he reports to President. He has the responsibility and authority for ;

- (a) design and calculation in compliance with design standards/codes and purchase order of customer.
- (b) preparation, review, verification, approval, revision and distribution of drawings
- (c) design reports
- (d) part lists
- (e) services
- (f) development printing and advertisement.

5.5.1.6 Sales Department Manager


The Sales Manager is responsible for overall contract control and marketing, and he reports to President. He has the responsibility and authority for

- (a) order review
- (b) development of marketing information
- (c) proposal of design change based on marketing data
- (d) introduction the product to customers
- (e) training his department personnel

5.5.1.7 Material Control Department Manager

The Material Control Department Manger reports to Management Director, and has responsibility and authority for ;

- (a) purchasing activities
- (b) stock control

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5.5.1.8 Personnel not referred to above has the responsibility and authority for his work in accordance with "Assignment Table".

5.5.2 Management Representative

President shall appoint a member of management who, irrespective of other responsibilities, shall have responsibility and authority that includes following. Quality assurance manager appoint management director.

- a) ensuring that processes needed for the quality management system are established, implemented and maintained,
- b) reporting to top management on the performance of the quality management system and any need for improvement, and,
- c) ensuring the promotion of awareness of customer requirements throughout the organization'
- d) The responsibility of a management director include liaison with external parties on matters relating to the quality management system.


[Reference Documents]

- Assignment Table
- Indoctrination and Training Procedure (SW-P-18-01)

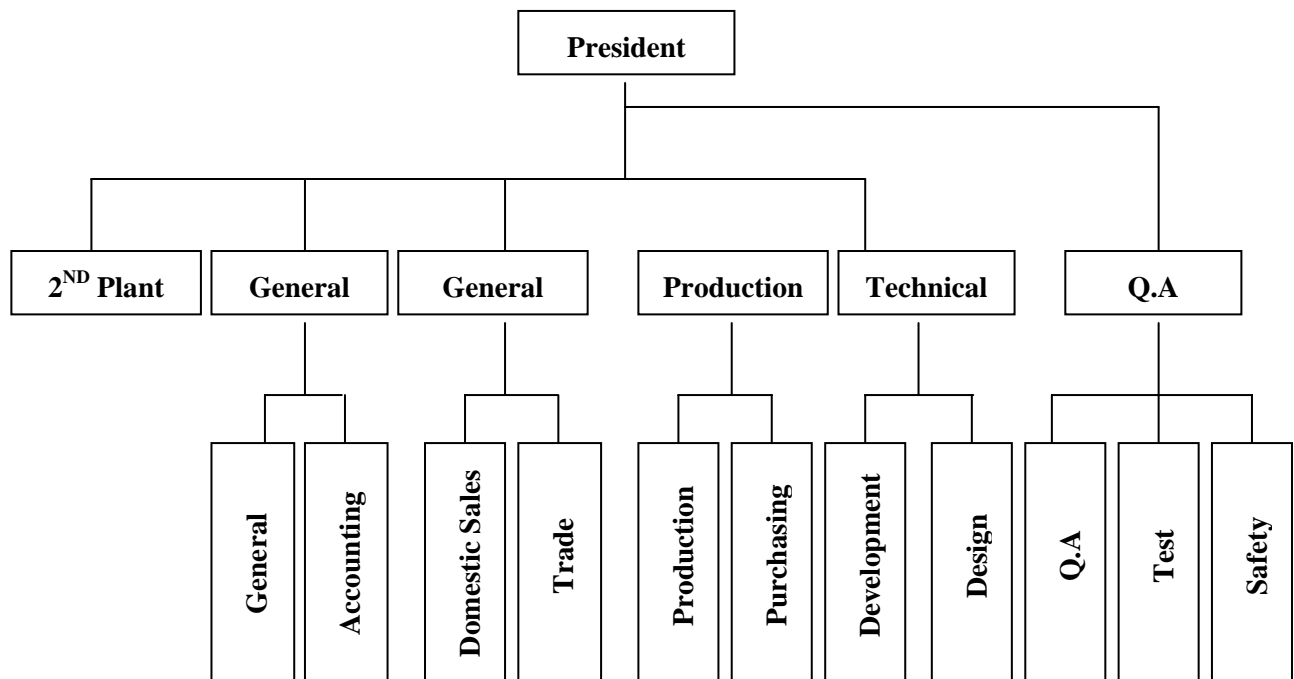
5.5.3 Internal communication

SWI apply below method for internal communication.

- a) Interphone and Telephone
- b) Meeting.
- c) A notice
- d) Procedure Form.

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5.5.3.1 Organization



5.6 Management review


5.6.1 General

- a) President shall review SWI's quality management system in accordance with "Management Review Procedure" in the end of every year to ensure its continuing suitability, adequacy and effectiveness
- b) Management review shall include assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy, monitoring of quality objectives and quality objectives.
- c) Records from management reviews shall be maintained in accordance with Quality record control procedure

5.6.2 Review input

The input to management reviews shall include information on

- a) results of audit,
- b) customer feedback,
- c) process performance and product conformity includes trends of product nonconformity,

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- d) status of preventive and corrective actions,
- e) follow-up actions from previous management reviews.
- f) changes that could affect the quality management system includes changes to applicable petroleum, petrochemical and natural gas industry standards,
- g) recommendations for improvement,
- h) information for product safety,
- i) reports and analysis of field nonconformities.

5.6.3 Review output

The output from the management review shall include any decision and actions related to

- a) improvement of the effectiveness of the quality management system and its processes
- b) improvement of product related to customer requirements, and
- c) resource needs.
- d) perform to improvement of product safety.

5.6.4 Result of management review shall be corrective action in accordance with Corrective and Preventative Action Procedure.

[Reference Documents]

- Management review procedure(SW-P-01-01)
- Corrective and preventative action procedure(SW-P-14-01).

6.0 Resource management


6.1 Provision of resources

6.1.1 SWI shall determine and provide the resources needed

- a) to implement and maintain the quality management system and continually improve its effectiveness, and.
- b) to enhance customer satisfaction by meeting customer requirements.
- c) to improvement of product safety.

6.1.2 The department manager report president to the resource needed.

6.1.3 President shall provide the to the resource needed through investment review.

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6.2 Human resource

6.2.1 General

6.2.1.1 Personnel performing work affecting product quality shall be competent on the basis of appropriate education, training, skills and experience.

6.2.2 Competence, awareness and training

The SWI shall:

- a) Determine the necessary competence for personnel performing work affecting product quality,
- b) provide training or take other actions to satisfy these needs,
- f) evaluate the effectiveness of actions taken,
- g) ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives, and
- h) maintain appropriate records of education, training, skills and experience (see 4.2.4)

6.2.2.1 Each department manager or Q.A manager decide competence for personnel performing work affecting product quality. The competence is decisive of allow for below.

- a) The relative difficulty of the work.
- b) Legalistic and technical requirement.
- c) Customer requirement.


6.2.2.2 QA manager provide training or take other actions in accordance with Education and training procedure to satisfy these needs.

6.2.2.3 QA manager evaluate the effectiveness of actions taken, The effectiveness of actions taken shall be check up with the below method.

- a) Test b) Interview c) Observation

6.2.2.4 SWI shall ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives, and

6.2.2.5 The frequency of training shall be established by Q.A manager.

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6.2.2.6 Each department shall be maintained appropriate records for each individual on education, training, skills and experience.

[Reference Documents]

- Education and training procedure(SW-P-18-01).

6.3 Infrastructure

SWI shall determine, provide and maintain the infrastructure needed to achieve the conformity of product requirements, Infrastructure includes, as applicable

- a) buildings, workspace and associated utilities;
- b) process equipment (both hardware and software), and
- c) supporting services (such as transport or communication).


6.4 Work environment

6.4.1 Work procedure

- a) SWI shall determine and manage the work environment needed to achieve conformity to product requirements.
- b) The work environment to manage is below.

Identification	Control Item
Environment requirement	Purity , Temperature, Humidity
The work environment	Dust, Harmful Gas, Density, Intensity of illumination.

- c) SWI shall be controlled the environment requirement affecting product quality and shall be check up with appropriate method.
- d) General manager check up the work environment in accordance with “Industrial Safety and health law” and shall be action according to check up result.

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7.0 Product realization.

7.1 Planning of product realization.

7.1.1 The organization shall plan and develop the processes needed for product realization.

7.1.2 Planning of product realization shall be consistent with the requirements of the other processes of the quality management system.

7.1.3 In planning product realization, the organization shall determine the following, as appropriate:

- a) quality objectives and requirements for the product;
- b) the need to establish processes, documents, and provide resources specific to the product;
- c) required verification, validation, monitoring, inspection and test activities specific to the product and the criteria for product acceptance
- d) records needed to provide evidence that the realization processes and resulting product meet requirements

7.1.4 Product Manager prepare “Quality process chart” with the result of planning product realization .


7.1.5 When design and development are outsourced, outsourcing processes is controlled by “Design Control procedure.”

7.2 Customer-related processes

7.2.1 Determination of requirements related to the product

Each department manager shall be check up following product requirements according to “Contract review procedure”. Product requirements is applied quality and development objective.

- a) requirements specified by the customer, including the requirements for the delivery and post-delivery activities,
- b) requirements not stated by the customer but necessary for specified or intended use, where known,
- c) statutory and regulatory requirements related to the product, and
- d) any additional requirements determined by SWI.

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7.2.2 Review of requirements related to the product

7.2.2.1 Before contract customer, SWI review the requirements, related to the product according to “Contract review procedure” and shall ensure that;

- a) product requirements are defined,
- b) contract or order requirements differing from those previously expressed are resolved, and
- c) SWI has the ability to meet the defined requirements
- d) To specify the damage and measure to counter at delivery, usage and abolition

7.2.2.2 Relative manager maintain records of the results of the review and actions arising from the contract review.

7.2.2.3 Where the customer provides no documented statement of requirement, the customer requirements shall be confirmed by SWI before acceptance.

7.2.2.4 Where product requirements are changed, SWI shall ensure that relevant documents are amended and that relevant personnel are made aware of the changed requirements


7.2.2.5 SWI shall establish “Contract review procedure” to review requirements related to the product.

7.2.3 Customer communication

7.2.3.1 SWI shall determine and implement communicating with customers according to customer purchase order, specification, visit, approved document and claim as following.

- a) Product information
 - Product specification, provide requirements, cost.
 - Product maintenance, installation and operation.
 - Product risk and measure to counter.
- b) enquiries, contracts or order handling, including amendments, and
- c) customer feedback, including customer complaints

7.2.3.2 Customer feedback, including customer complaints is communicated the relative manager .
The relative manager perform corrective action according to “corrective and prevention action procedure”

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[Reference Documents]

- Contract review procedure(SW-P-03-01).
- Corrective and prevention action procedure(SW-P-14-01)

7.3 Design and development

7.3.1 Design and development planning

SWI Shall establish and maintain “Design Control Procedure” for the design of a product to ensure that specified requirements are met.

7.3.1.1 Technical manager plan and control the design and development of the product.

During the design and development planning, Technical manager shall determine;

- a) the design and development stages,
- b) the review, verification and validation that are appropriate to each design ,and
- c) the responsibilities and authorities for design and development.

7.3.1.2 Technical manager manage the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility.

7.3.1.3 Planning output shall be updated, as appropriate, as the design and development progresses.


7.3.1.4 When design and development are outsourced, outsourcing processes is controlled by “Design Control procedure.”

7.3.1.5 Design documentation shall include the methods, assumptions, formulas, and calculations.

7.3.2 Design and development inputs

Technical manager determine the input of the design and development of the product and maintain the record include following. The design and development inputs be reviewed for adequacy. requirements shall be complete, unambiguous and not in conflict with each other.

- a) functional and performance requirements
- b) applicable statutory and regulatory requirements,
- c) where applicable, information derived from previous similar designs, and
- d) their requirements essential for design and development.
- e) customer specified requirements

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7.3.3 Design and development outputs

Technical manager provide outputs of design and development in a form that enables verification against the design and development input and approve prior to release.

Design and development output shall.

- a) meet the input requirements for design and development,
- b) provide appropriate information for purchasing, production and for service provision.
- c) contain or reference product acceptance criteria, and
- d) specify the characteristics of the product that are essential for its safe and proper use.
- e) be documented.

7.3.4 Design and development review

7.3.4.1 At suitable stages, Technical manager perform systematic reviews of design and development in accordance with planned arrangement.

- a) to evaluate the ability of the results of design and development to meet the requirements, and
- b) to identify any problems and propose necessary actions.

7.3.4.2 The review of design and development is performed at customer requirement and come about a effective factor in the product cost and quality

7.2.4.3 Participants in such reviews shall include representatives of functions concerned with the design and development stage being reviewed.


7.3.4.4 A final design review shall be conducted and documented. Individuals other than the person or person who developed the design shall approve the final design.

7.3.4.5 Records of the results of reviews and any necessary actions shall be maintained

7.3.5 Design and development verification

7.3.5.1 Technical manager perform design and development verification to ensure that the design and development outputs have met the design and development input requirements.

7.3.5.2 Operation test include the product life cycle, confidence, durability and safety.

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7.3.5.3 Records of the results of the verification and any necessary actions shall be maintained.

7.3.5.4 Design verification activities can include one or more of the following

- a) Confirming the accuracy of design results through the performance of alternative calculations.
- b) Review of design output documents independent of activities of 7.3.4.2004
- c) Comparing new designs to similar proven designs.

7.3.6 Design and development validation

7.3.6.1 After Design and development verification, Technical manager perform design and development validation in accordance with the customer and the specified regulations requirements.

7.3.6.2 Design and development validation shall be completed prior to the delivery or implementation of the product

7.3.6.3 Records of the results of design and development validation and any necessary actions shall be maintained.

7.3.6.4 Design validation can include one or more of following;


- a) Prototype tests.
- b) Functional and/or operational tests of production products.
- c) Tests specified by industry standards and/or regulatory requirements.
- d) Field performance tests and reviews.

7.3.7 Control of design and development changes

7.3.7.1 Design and development changes shall be reviewed, verified and validated, as appropriate and approved by authorized personnel before implementation.

7.3.7.2 The review of design and development changes shall include evaluation of the effect of the changes on constituent parts and products already delivered.

7.3.7.3 Records of the results of the design and development changes and any necessary actions shall be maintained.

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7.3.7.4 Design and development changes, including changes to design documents, shall require the same controls as original design and development, and design documentation.

[Reference Documents]

- Design control procedure(SW-P-04-01).

7.4 Purchasing

7.4.1 Purchasing process

7.4.1.1 SWI perform purchasing action according to “Purchasing Control Procedure”.

7.4.1.2 Criteria for selection, evaluation and re-evaluation of suppliers shall include one or more of the following:

- a) Inspection of supplier’s final product by SWI at supplier’s facility
- b) Inspection of supplier’s final product by SWI upon delivery
- c) Surveillance of supplier’s conformance to the SWI’s purchasing requirements.
- d) Verification by SWI that the supplier’s quality management system conforms to an internationally recognized quality management system standard/technical specification.

7.4.1.3 When SWI chooses outsource any special process, SWI shall require that the supplier comply with the requirements of 7.5.2, as applicable (see 4.1.)


7.4.1.4 The type and extent of control applied to the supplier and the purchased product shall be dependent upon the effect of the purchased product on subsequent product realization or the final product.

7.4.1.5 Material control manager and/or production manager evaluate and select suppliers based on their ability to supply product in accordance with “Supplier Control Procedure”. Criteria for selection, evaluation and re-evaluation be specified “Supplier Control Procedure”

7.4.1.6 Records of the results of evaluations and any necessary actions arising from the evaluation shall be maintained.

7.4.2 Purchasing information

7.4.2.1 Material control manager and/or production manager describe the product to be purchased in purchasing information, including where appropriate:

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- a) requirements for approval of product, procedures, processes and equipment,
- b) requirements for qualification of personnel, and
- c) quality management system requirements.
- d) the type, class, grade other precise identification
- e) the title or other positive identification, and applicable issues of specifications, process requirements, inspection instructions and other relevant technical data.

7.4.2.2 Material control manager and/or production manager review the adequacy of specified purchase requirements prior to their communication to the supplier

7.4.3 Verification of purchased product

7.4.3.1 SWI perform receiving inspection according to “Receiving Inspection Procedure” for ensuring that purchased product meets specified purchase requirements and maintain records of verification activities.

7.4.3.2 Where SWI or its customer intends to perform verification at the supplier’s premises, Material control manager and/or production manager state the intended verification arrangements and method of product release in the purchasing information.

[Reference Documents]

- Purchasing control procedure(SW-P-06-02)
- Supplier control procedure (SW-P-06-01)
- Receiving inspection procedure (SW-P-10-01)


7.5 Production and service provision

7.5.1 Control of production and service provision

SWI shall plan and carry out production and service provision under controlled conditions.

7.5.1.1 The plan and development output document, the customer and product requirement grasp and the product specification that it describes the characteristics of the product and it uses.

7.5.1.2 Each manager is prepared the work instructions (QC Process chart, Work standard etc.) in accordance with “Process control procedure” considers the effect and the degree of difficulty which the work gives to a quality

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7.5.1.3 Process controls shall include requirements for verifying compliance with quality plans, control features, and reference standards/codes.

7.5.1.4 Process controls documents shall include or reference instructions, workmanship and acceptance criteria.

7.5.1.5 it controls a production equipment and a software in accordance with “Facility control procedure “.

7.5.1.6 it controls and uses the instrument (monitoring and measuring device) in accordance with “Measuring and instrument control procedure”.

7.5.1.7 It is monitoring and measures the process and the product in accordance with the inspection and test procedure.

7.5.1.8 It controls the delivery of product from a warehouse and the activity after delivering and delivery

7.5.1.9 While producing and service provision, it grasps and controls the situation the defect will be able to occur in the product by the act which is inappropriate.

7.5.2 Validation of processes for production and service provision

Organizations shall establish arrangements for the validation of processes that include :


- a) Defined criteria for review and approval of the processes.
- b) Approval of equipment and qualification of personnel
- c) Use of specific methods and procedure.
- d) Requirements for records.
- e) Revalidation.

7.5.3 Identification and traceability

7.5.3.1 SWI identify and control the product in accordance with “identification and traceability procedure” throughout product realization.

7.5.3.2 SWI shall establish control features for identification of product status and the replacement of identification and traceability marks and records.

7.5.3.3 Inspection and test state is identified and controlled in accordance with “Inspection and test procedure”

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7.5.3.4 SWI controls and records the charge No., Heat No. material of the products for identification and traceability.

7.5.4 Customer property

SWI shall identify, verify protect and safeguard customer property for use or incorporation into the product

7.5.4.1 SWI shall establish control features for verification, storage, maintenance and controls of customer property

7.5.5 Preservation of product

7.5.5.1 SWI shall establish the procedures for handling, cleaning, storage, packaging, preserving and delivery of products.

7.5.5.2 SWI preserves and controls the conformity of product during internal processing and delivery to the intended destination in accordance with “Handling, cleaning, storage, packaging, preserving and delivery procedure”

7.5.5.3 This preservation include identification, handling, packaging, storage, and protection.

7.5.5.4 This Preservation also apply to the constituent parts of a product


7.5.5.5 To detect deterioration, the condition of product or constituent parts in stock shall be assessed at specified intervals.

[Reference Documents]

- Process control procedure(SW-P-09-01)
- Facility control procedure(SW-P-09-03)
- Identification and traceability procedure(SW-P-08-01)
- Handling, cleaning, storage, packaging, preserving and delivery procedure(SW-P-15-01)
- Inspection an test procedure(SW-P-10-03)

7.6 Control of monitoring and measuring devices

7.6.1 Each manager determine the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements (see 7.2.1)

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7.6.2 The monitoring and measuring is performed according to relative procedure
(Ex “Inspection an test procedure etc ”)

7.6.3 The instrument in order to secure the validation of measurement result is controled following below in accordance with “Measuring and instrument control procedure”.

- a) be calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded;
- b) be adjusted or re-adjusted as necessary;
- c) be identified to enable the calibration status to be determined;
- d) be safeguarded from adjustments that would invalidate the measurement result;
- e) be protected from damage and deterioration during handling, maintenance and storage
- f) include device type, unique identification, location, frequency of checks, check method, and acceptance criteria.

7.6.4 SWI assess and record the validity of the previous measuring results when the equipment is found not to conform to requirements. SWI take appropriate action on the equipment and any product affected.

7.6.5 SWI shall ensure that the environmental conditions are suitable for calibrations, inspections, measurements and tests being carried out.

7.6.6 Records of the results of calibration and verification shall be maintained.

[Reference Documents]

- Measuring and instrument control procedure(SW-P-11-01)


8.0 Measurement, analysis and improvement

8.1 General

SWI plan and implement the monitoring, measurement, analysis and improvement processes below.

- a) to demonstrate conformity of the product,
- b) to ensure conformity of the quality management system, and
- c) to continually improve the effectiveness of the quality management system.

This shall include determination of applicable methods, including statistical techniques, and the extent of their use.

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8.2 Monitoring and Measurement

8.2.1 Customer satisfaction

- a) SWI grasps a customer satisfaction according to contract review, customer CLAIM and customer visit evaluation
- b) Subjectivity of grasp of customer satisfaction sales parts, sales manager notifies customer satisfactory investigation result in the relation parts, the relation parts applies customer satisfactory result in work.
- c) Q.A manager is performed corrective action for customer complainment action in customer complainment receipt , cause analysis and action in accordance with “Customer claim action procedure” and notifies in the relation parts.
- d) To the case which causes a damage in property and the body of the customer it manages quickly and it minimizes the damage of the company

8.2.2 Internal audit

8.2.2.1 SWI conduct internal audits at least annually by personnel independent of those who performed or directly supervised the activity being audited in accordance with “Internal audit procedure” to determine whether the quality management system.


- a) conforms to the planned arrangements , to the requirements of this international Standard and to the quality management system requirements established by SWI,
- b) is effectively implemented and maintained.

8.2.2.2 When management agent an audit program shall be planned, taking into consideration the status, identify response time for addressing detected nonconformities and importance of the processes and areas to be audited as well as the results of previous audits.

8.2.2.3 Management agent specify in “Internal audit procedure” following below.

- a) The audit criteria, scope, frequency and methods shall be defined
- b) The responsibilities and requirements for planning and conducting audits, and for reporting results and maintaining records shall be defined in a documented procedure.

8.2.2.4 Selection of auditors and conduct of audits shall ensure objectivity and impartiality of the audit process. Auditors shall not audit their own work.

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8.2.2.5 The audited department manager shall be responsible for performing the corrective action on the deficiencies found by the audit. Follow up activities shall include the verification of the actions taken and the reporting of the verification results.

8.2.3 Monitoring and measurement of processes


- a) Each department manager is monitoring and measures the process and it accomplishes periodically from the department.
- b) If It is not suitably in the result where the process output is planned, Each department manager perform necessary action in accordance with “the corrective and prevention action procedure” .
- c) Each the process monitoring and the measurement object and the person in charge is belowing.

It does not limit belowing item.

Process	The person in charge	Measurement Item
Quality objective control	Department manager	Objective accomplishment ratio
Sales	Sales manager	Annual sales of revenue, Market research, Customer Complain.
Design	Design Manager	Design quantity, Product safety
Production	Production Manager	Production volume
		Facility breakdown quantity, Preservation maintenance quantity.
Purchasing	Purchasing Manager	Law material non-conformance ratio. Suv-vendor visiting quantity.
Q.A	Q.A Manager	Defective ratio.
		Training and education execution ratio

8.2.4 Monitoring and measurement of product

8.2.4.1 Quality assurance manager and research and development manager executes the monitoring and a measurement the quality of the product so that the product requirement was been sufficient in order to verify the thing in accordance with “inspection and test procedure”.

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8.2.4.2 The product quality monitoring and measurement execute with belowing.

Inspection Kind	Execution time	Person in charge
Receiving	Law material in put.	Q.A manager
Process	In manufacturing process the time which is appropriate	Q.A Manager
Production	After production completing before out put.	Q.A Manager
Production Safety	Product research and development phase	Design manager

8.2.4.3 The monitoring and measurement of product quality must execute in accordance with the inspection and measurement criteria, the inspection and measurement criteria must include the efficiency which is demanded in the product, the passing standard against a durability and the appearance etc.

8.2.4.4 The monitoring and measurement result to passing criteria suitability are maintain with evidence.

8.2.4.5 The monitoring and measurement recording approve person in charge it will be able to approve the out-put of the product.

8.2.4.6 Quality assurance manager approves, it excepts the case which the customer approves and before the monitor ring and measurement are completed, the product (include law material) is not output with succeeding process.

8.2.4.7 Personnel other than the persons who performed or directly supervised the production of materials or products shall perform final acceptance and product release.

[Reference Documents]


- Internal audit procedure(SW-P-17-01)
- Inspection an test procedure(SW-P-10-03)

8.3 Control of nonconforming product

8.3.1 SWI shall ensure that product which does not conform to product requirements is identified and controlled in accordance with the control of nonconforming product procedure to prevent its unintended use or delivery

8.3.2 SWI shall deal with nonconforming product by one or more of the following ways.

- a) by taking action to eliminate the detected nonconformity;
- b) by authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer
- c) by taking action to preclude its original intended use or application.

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d) The nonconforming product in the customer the case back haul management which is conducted
In case of the nonconforming product delivered in the customer. It is conducted withdrawal.

8.3.3 Records of **customers notification and** the nature of nonconformities and any subsequent actions taken, including concessions obtained, shall be maintained (see 4.2.4).

8.3.4 When nonconforming product is corrected, it shall be subject to re-verification by quality assurance manager to demonstrate conformity to the requirements.

8.3.5 When nonconforming product is detected after delivery or use has started, the organization shall take action appropriate to the effects, or potential effects, of the nonconformity

8.3.6 In case of has the worry which will bring about the damage at the body and property of the customer by the noconforming product which is delivered in the customer, it does quickly withdrawal and the management which is necessary it executes.

8.3.7 The process of evaluation, release and acceptance of nonconforming product shall include one or more of following;

8.3.7.1 Accepting products that do not satisfy manufacturing acceptance criteria provided:

- a) Products staisfy the design acceptance criteria, or
- b) The violated manufacturing acceptance criteria are categorized as unnecessary to satisfy the design accetance criteria, or
- c) Products are repaired or reworked to satisfy the design accetance criteria or manufacturing accetance criteria


8.3.7.2 Acceting products that do not satisfy the original design acceptance criteria provided:

- a) The original design acceptance criteria are changed per 7.3.7, and
- b) The materials or products satisfy the new design accetance criteria.

8.3.8 Field nonconformity analysis

8.3.8.1 QA Department shall be established “ Field nonconformance procedure ” for identifying, documenting and reporting incidents of field nonconformites or product failures.

Field nonconformance procedure shall ensure the analysis of field nonconformities, provided the product or documented evidence supporting the nonconformity is available to faciliate the determination of cause.

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8.3.8.2 QA Department shall review all the related inspection reports and analyze field nonconformance characteristics, and provide the field nonconformance report.

8.3.8.3 Q.A Department shall decide the disposition and take corrective actions in corporation with the concerned Departments.

[Reference Documents]

- Non-conforming control procedure(SW-P-13-01).
- Field nonconformance procedure (SW-P-13-02).

8.4 Analysis of data

8.4.1 SWI shall determine, collect and analysis appropriate to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made.

8.4.2 SWI used to statistical techniques in accordance with "Statistical Techniques Instruction" for the identification and used of the techniques for analysis of data.

8.4.3 SWI's analysis of data shall provide information relating to:

- a) customer satisfaction
- b) conformity to product requirements
- c) characteristics and trends of processes and products including opportunities for preventive action,
and
- d) supplies


[Reference Documents]

- Statistical Techniques Instruction (SW-Q-03)

8.5 Improvement

8.5.1 Continual Improvement

8.5.1.1 SWI shall continually improve the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

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8.5.1.2 SWI shall be performed in accordance with “Internal audit procedure” and “Corrective and preventive action procedure” for continual improvement.

8.5.2 Corrective action.

8.5.2.1 QA Manager shall ensure that corrective actions are taken and that they are effective.

8.5.2.2 SWI shall take action to eliminate the cause of nonconformities in order to “Corrective and preventable action procedure”. Corrective actions shall be appropriate to the effects of the nonconformities encountered.

8.5.2.3 Procedure of corrective action shall be established to define requirements for:

- a) reviewing non-conformities (including customer complaints),
- b) determining the causes of nonconformities,
- c) evaluation the need for action to ensure that nonconformities do not recur,
- d) determining and implementing action needed,
- e) records of the results of actions taken, and
- f) reviewing corrective action taken.

8.5.2.4 Response times for the submission of an action plan to address corrective action shall be identified in accordance with corrective action report. Response of corrective action report shall be submitted at least two weeks after corrective action report issue.

8.5.3 Prevention action.

8.5.3.1 QA Manager shall ensure that prevention actions are taken and that they are effective.


8.5.3.2 SWI shall determine action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions shall be appropriate to the effects of the potential problems.

Procedure of preventable action shall be established to define requirements for:

- a) determining potential nonconformities and their causes,
- b) evaluating the need for action to prevent occurrence of nonconformities,
- c) determining and implementing action needed,
- d) records of results of action taken, and
- e) reviewing preventive action taken.

[Reference Documents]

- Corrective and preventive action procedure(SW-P-14-01)

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	9.0 API MONOGRAM PROGRAM REQUIREMENTS	Rev. No.	24
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9.0 API MONOGRAM PROGRAM REQUIREMENTS

The API Monogram shall be conform to ANNEX A API Monogram Program Requirements of API Specification Q1 Seventh Edition-June 15, 2003.

9.1 SWI shall control the application of the monogram in accordance with the following

- a) Each Licensee shall develop and maintain an API Monogram Marking Procedure that documents the marking / monogramming requirements specified by the API 6D to be used for application of the API Monogram by the Licensee. The marking procedure shall define the location where the licensee shall apply the API Monogram and require that the Licensee's license number and date of manufacture be marked on monogrammed products in conjunction with the API Monogram.

At a minimum the date of manufacture shall be two digits representing the month and two digits representing the year (r.g., 05-03 for May 2003) unless otherwise stipulated in the applicable API 6D.

Where there are no API 6D marking requirements, the Licensee shall define the location where this information is applied.


- b) The API Monogram may be applied at any time appropriate to the production process but shall be removed if the valve is subsequently found to be nonconforming with API 6D specification.
Valves that do not conform to API 6D requirements shall not bear the API monogram.
- c) Only an API Licensee may apply its API Monogram to API monogramable valves. In certain instances when a subcontractor to the Licensee performs operations on the valve that remove or obliterate the API Monogram, the Licensee may allow the subcontractor to reapply the API Monogram and all required marking information provided the reapplication is controlled by the Licensee per the Licensee's API Monogram Marking Procedure.
- d) The API Monogram shall be applied at the licensed facility. When required, the API Monogram information may be reapplied as noted in 9.1 c.
- e) QA Manager shall be responsible and authority for applying and removing the API Monogram.

9.2 The API shall maintain records of reported problems encountered with API Monogrammed valves.

Records of required by API 6D specification shall be maintained for a minimum of 5 years.

[Reference Document]

- Marking procedure (SW-Q-01)
- Non-conforming control procedure (SW-P-13-01)

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	10.0 PRESSURE EQUIPMENT DIRECTIVE 97/23/EC REQUIREMENTS	Rev. No.	24
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10.0 PRESSURE EQUIPMENT DIRECTIVE 97/23/EC REQUIREMENTS

Records of product safety by Pressure Equipment Directive(97/23/EC) shall be maintained for a minimum of 10 years.



11.0 Quality Management system flow chart

